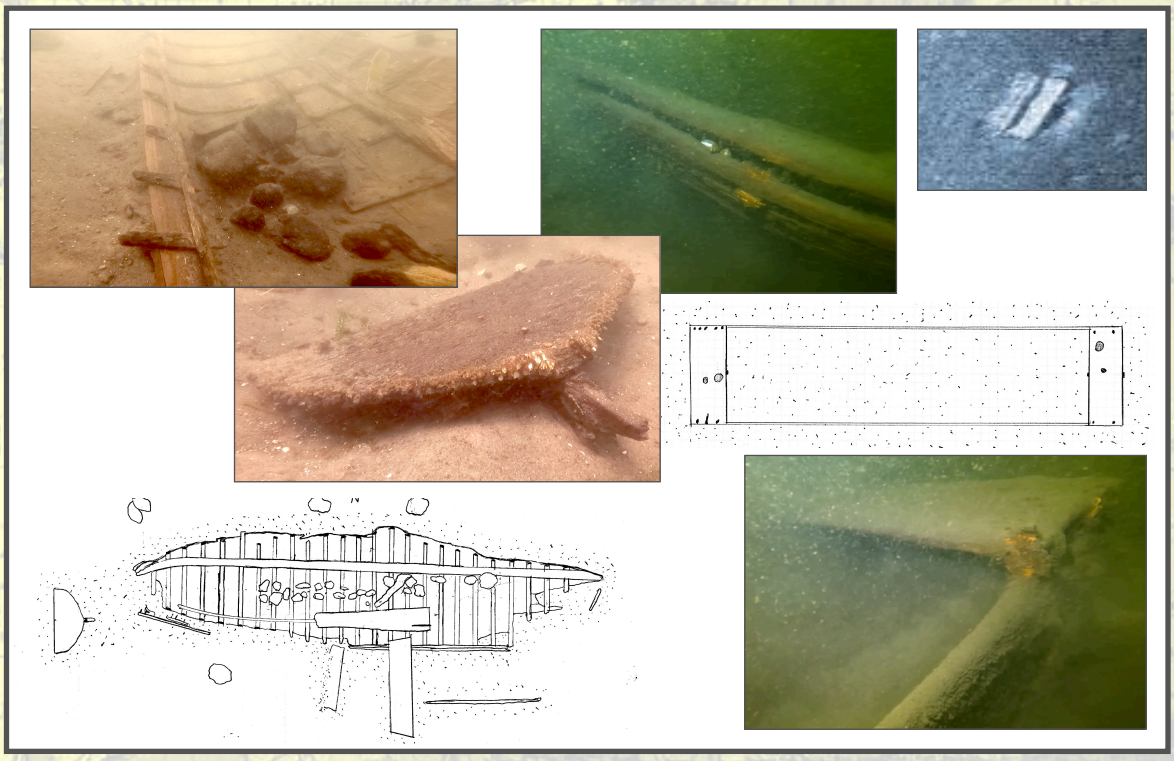
MARITIME HERITAGE MINNESOTA

MHM IS A 501(c)(3) NON-PROFIT CORPORATION DEDICATED TO THE DOCUMENTATION, CONSERVATION, AND PRESERVATION OF MINNESOTA'S FINITE MARITIME CULTURAL RESOURCES

Ann Merriman
Christopher Olson
Minnesota Archaeology Licenses
22-089, 23-119

Lake Minnetonka Nautical Archaeology Project Series 11

Lake Minnetonka Nautical Archaeology 11 Project Report



Acknowledgments

Maritime Heritage Minnesota (MHM) thanks a great group of people who donated funds that allowed the 2022 Lake Minnetonka fieldwork to commence: Cheryl Ahlcrona, Ardy and Jack Becklin, Martha and Mickey Elmore, Paul Maravelas and Joni Sheftel, Dallas and Shanon Olson, Dr Ron Schirmer, and Jinky and Mike Smalley-Gardner. MHM funded the 2023 season. We thank Bruce Koenen of the Office of the State Archaeologist for his continued and timely responses to our requests. MHM thanks Kong Moua of the Department of Natural Resources for his time dealing with our requests for information. MHM could not have completed this project without the in-kind support of volunteer divers Josh Knutson and Kelly Nehowig. This project could not have been completed in a timely fashion without the consideration of Michael and Karen Kramer; the use of their Lake Minnetonka boathouse for research boat *Anomaly 51* is greatly appreciated. Lastly, MHM thanks our Board of Trustees Michael F Kramer, Deb Handschin, and Steve Hack for their continued support.

This work is dedicated to our wonderful volunteer Betty Lloyd who passed away in July of 2023. Thank you for your dedication, Betty. You are missed.

"A small St. Paul-based nonprofit, Maritime Heritage Minnesota (MHM)...[has] re-establish[ed] the discipline of underwater archaeology in Minnesota...[conducting] groundbreaking nautical archeological and maritime historical research."

~Steve Elliott, Former Minnesota Historical Society CEO and Director, January 2015

Introduction

Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statues as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of State v. Bollenbach (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).

MHM completed two side and down-imaging sonar surveys of Lake Minnetonka in September-November 2011 and May-June 2012 - the Lake Minnetonka Surveys 1 and 2 Projects (LMS-1, LMS-2). Prior to MHM's two comprehensive surveys, there was one recognized nautical archaeological site on the lake bottom and another five wrecks were known. MHM completed the Lake Minnetonka Nautical Archaeology 1-10 Projects between 2012-2021, and re-scanning of the lake has been on-going with improved sonar equipment since 2015. At the beginning of the Lake Minnetonka Nautical Archeology 11 Project (LMNA-11) in May 2022, there were 93 known wrecks (including the Lake Minnetonka North Arm Dugout Canoe removed from the lake in 1934) on the lake bottom. Additionally, dozens of maritime sites - some recognized as underwater archaeological sites - have been identified on the bottom of Lake Minnetonka, along with dozens of other objects, false targets such as vegetation, and large rock formations and moraines.

All fieldwork images recorded by Josh Knutson, Kelly Nehowig, and MHM

Preface

During the LMNA-11 Project, that encompassed the field seasons of 2022 and 2023, MHM investigated 7 unknown anomalies - 2 of which were not identified through sonar - and 2 known wrecks. Of these targets, 3 previously unknown wrecks were documented, 1 maritime site was identified, 2 'other' objects were identified, one anomaly was not located, and 2 known Minnesota Underwater Archaeological Wreck Sites were assessed. Additionally, some sonar survey of chosen parts of the lake were conducted. during the project. The fieldwork was conducted during late May to early October 2022, and late July to mid-September 2023.

Results of the Lake Minnetonka Underwater Archaeology 11 Project
Minnesota Archaeology Licenses 22-089, 23-119

Research Design

The goals of the LMNA-11 Project were to identify anomalies recorded on the lake bottom through side and down-imaging sonar, locate them using GPS, and dive on them to establish their identity. MHM determined which anomalies would be investigated from an analysis of sonar data recorded between 2011-2022. Each anomaly recognized in the sonar footage was assigned a number upon its recognition as a possible site. Additionally, 1 anomaly was not located through sonar, but through the tenacity of MHM volunteer Kelly Nehowig. Often Kelly visually inspects the lake bottom weedlines along shorelines in certain bays; he actually came upon a partially buried wreck that became known as Anomaly 1125.

The 7 anomalies examined using SCUBA during the LMNA-11 Project were A769, A1101, A1106, A1112, A1120, A1125, and A1136. Additionally, MHM re-visited the *Theta* Wreck site (21-HE-514) and the Unfinished Dugout Canoe Wreck (21-HE-557) to assess their conditions after probable exposure to continued propellor wash and boat anchor mechanical damage to the sites. Using data accumulated from the fieldwork as a starting point, MHM conducted research to place newly recognized nautical archaeological sites and anomalies into their historical contexts. Minnesota Archaeological Site Forms were filed with the OSA when appropriate.

Methodology

The methodology used to identify and rudimentarily document underwater archaeological anomalies is straightforward. MHM used the GPS coordinates of a wreck or an anomaly - taken from the data imbedded in the sonar data - to drop a weighted diver down buoy near the target. The dive boat anchored a short distance away from the buoy and divers geared up for the dive. At any given time, there were between 2 and 3 divers underwater. If the buoy anchor weight landed near and sometimes on the anomaly or wreck, no search for the target was conducted. However, for a variety of reasons, a brief search for the target was conducted until it was located or it was determined that the anomaly was a false sonar return. If a cultural or natural resource was located, the divers photographed and recorded video of the site or object, logged

its basic measurements, examined any obvious attributes, and measured sediment build-up (if appropriate).

Results

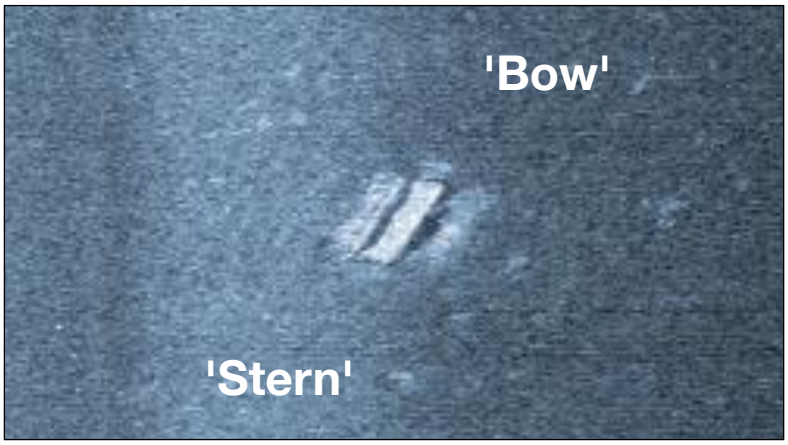
After the completion of the LMNA-11 Project fieldwork in September 2023, there are now 96 identified wrecks on the bottom of Lake Minnetonka or that were once on the bottom, including a Woodland Culture dugout canoe removed from the lake in 1934 (21-HE-438). Of these wrecks, 64 of them have 63 Minnesota archaeological site numbers; 2 wrecks are features of 1 site. Further, 4 other types of maritime sites have archaeological site numbers and there are 40 maritime sites or objects without numbers. Additionally, dozens of 'other' objects have been identified that do not have site numbers, among them 13 vehicles that include 4 snowmobiles, 2 trucks, and 7 cars. During the LMNA-11 Project specifically – of the 7 unknown anomalies and 2 known wrecks investigated – MHM and its volunteers accumulated important data about the wrecks and confirmed the existence of 3 new wrecks, 1 new submerged maritime site, and 2 ‘other’ objects.

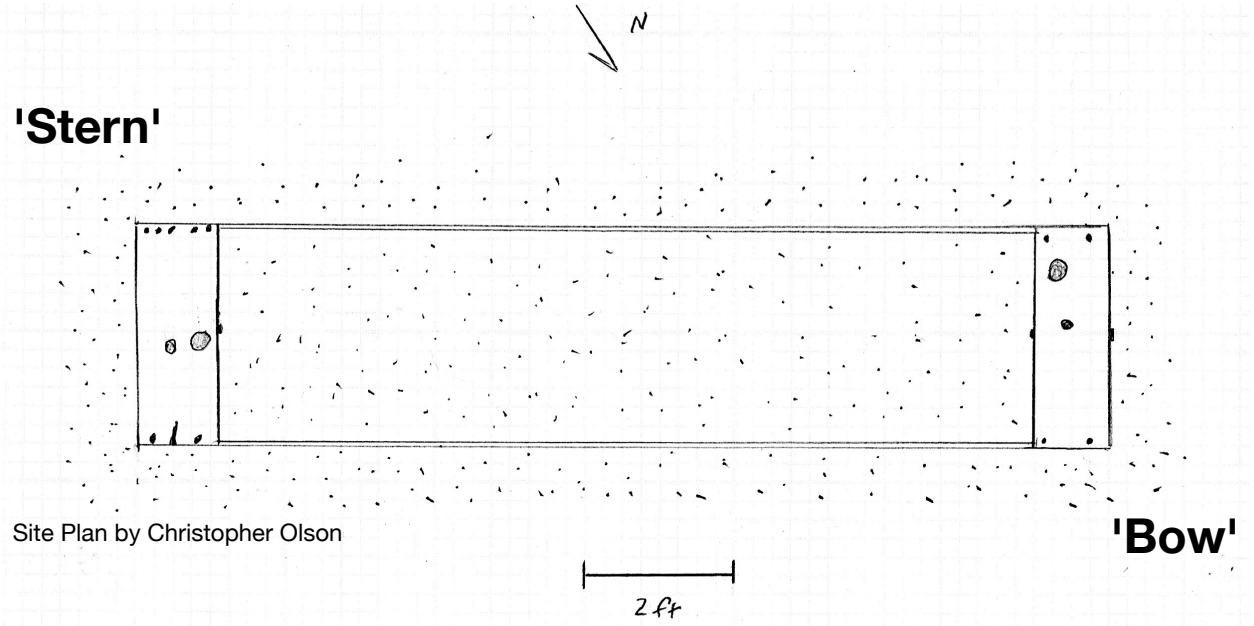
Scow Duck Boat Wreck, 21-HE-574 (Anomaly 1112)

The Scow Duck Boat Wreck is 13.00 feet long and 3.00 feet wide, lies 30 feet of water, and the site generally has low visibility. The wreck is double-ended and both the 'bow' and 'stern' have small rectangular decks - that resemble bench seats - that have round holes bored through them. For reference purposes, MHM has labeled the wreck end to the southeast is the bow and the northwestern end is the stern. The wreck is simply constructed out of rough-hewn timber; the 2 sides and bottom (bottom plank #1) of the vessel are comprised of 3 planks resulting in a flat-bottomed boat with a hard chine. Then, 2 small bottom planks (bottom planks #2 and #3) were added to the ends and rise upwards, resulting in raked scow ends. Bottom plank #1 is covered in silt and cannot be seen while bottom planks #2 and #3 can be discerned if the bottom silt does not get too disturbed. The sides and bottom plank #1 are technically strakes - very large strakes. The wreck's gunwale is complete and shows the thick sturdy nature of the side strakes. Additionally, the side planks and stern 'bench-like' deck have significant branch scars that have not been planed flat or sanded. Large round-head nails hold the wreck together and can be seen on the port stern and starboard bow, and hand-saw marks can be discerned at the port quarter. MHM contends the wreck never had seats due to the vessel's low freeboard and its function as a duck boat; the hunters would sit or kneel on the inside flat bottom of the boat.

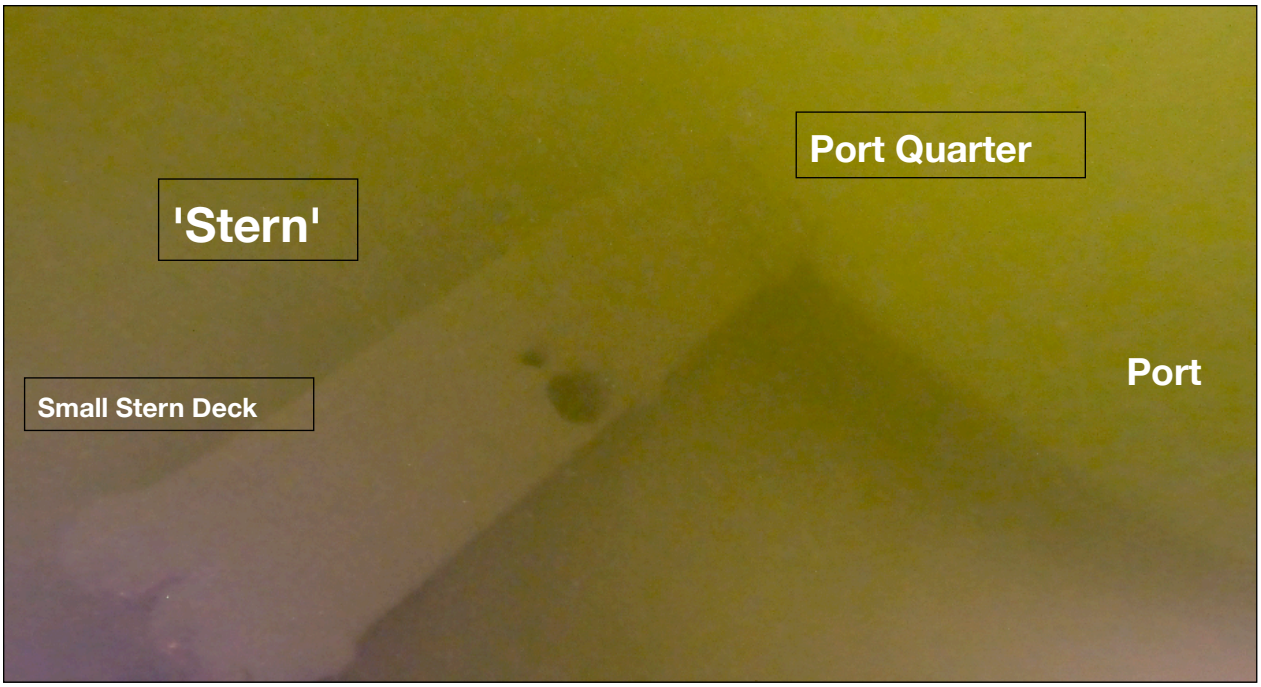
MHM has determined that the Scow Duck Boat Wreck is nearly the oldest known wreck on the bottom of Lake Minnetonka, with a construction date of 1880; only the North Arm Dugout Canoe (21-HE-438), Unfinished Dakota Dugout Canoe Wreck (21-HE-557), and Wayzata Bay Wreck (21-HE-401) were constructed before this wreck. In terms of a sinking date, small boats of this type usually had a life span of 15 years or so due to repeated exposure to hot summers and then cold winter storage that expanded and shrunk the wood. However, the thick sturdy planks that comprise Anomaly 1112 may have extended its working life, so a sinking date of 1900 is reasonable. MHM submitted a Minnesota Archaeological Site from to the Office of the State Archaeologist in early February 2024.

Sonar Image





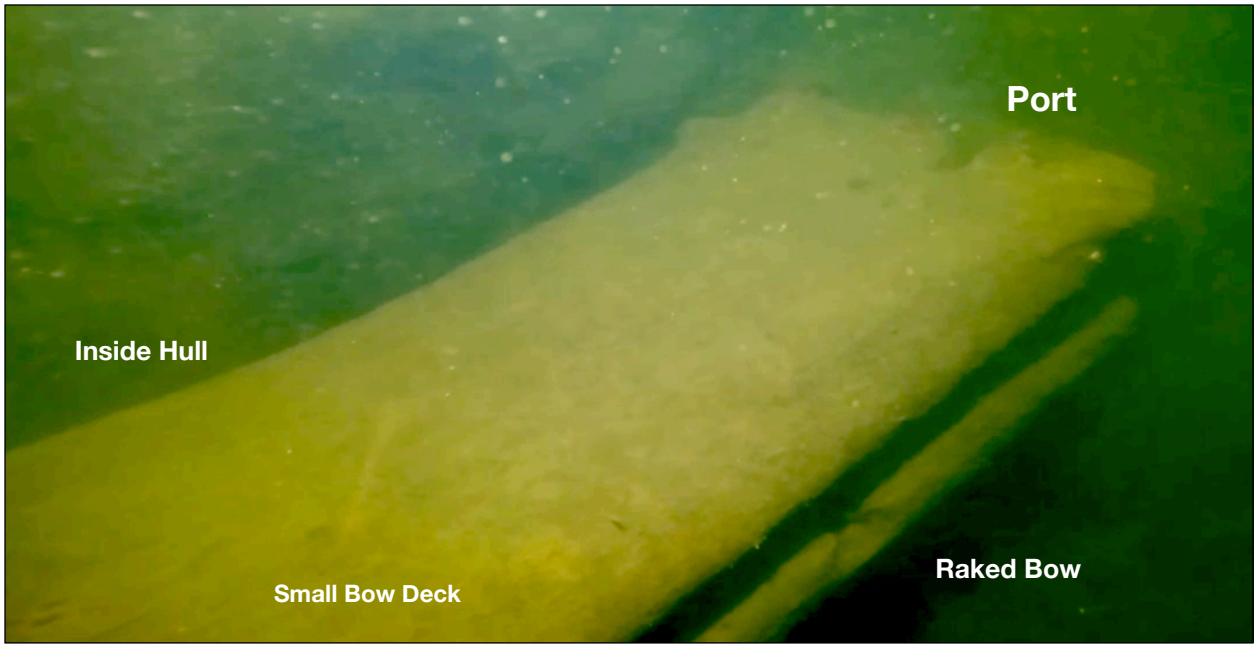
Site Plan by Christopher Olson

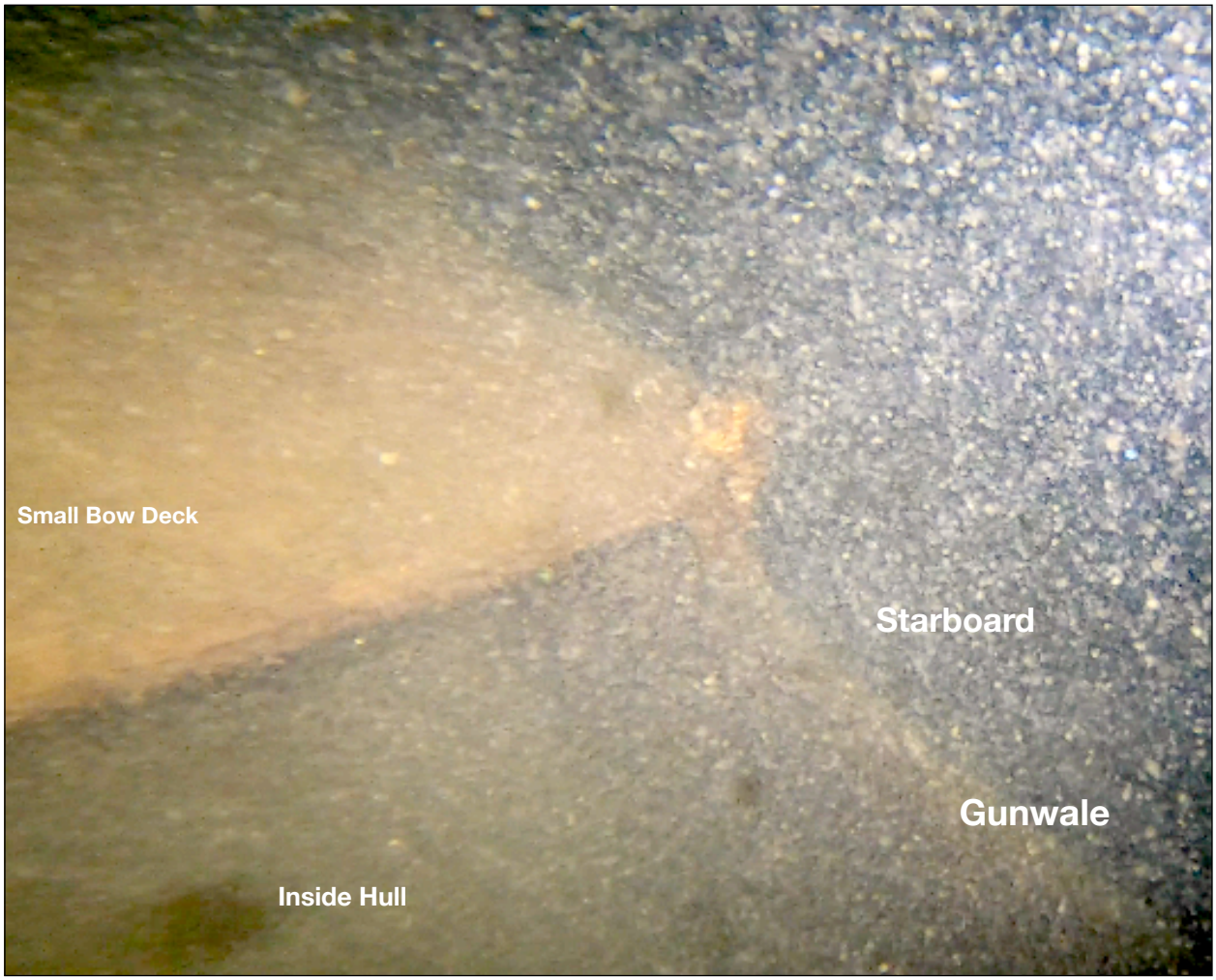

Port Quarter
'Stern'
Port
Small Stern Deck

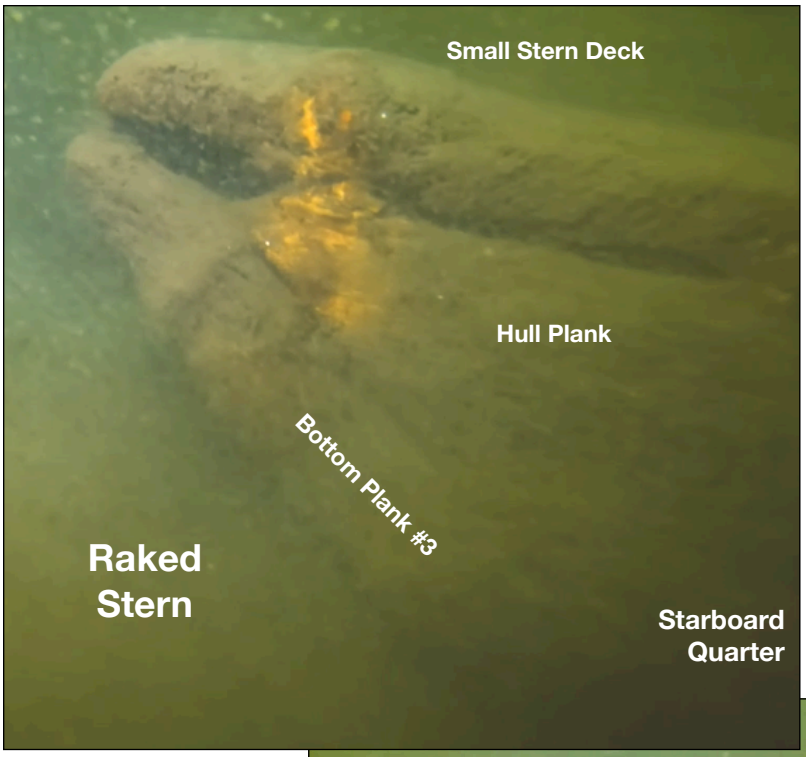

Small Bow Deck
Starboard Bow
Bottom Plank #2
Raked Bow
Gunwale
Inside Hull
Hull Plank

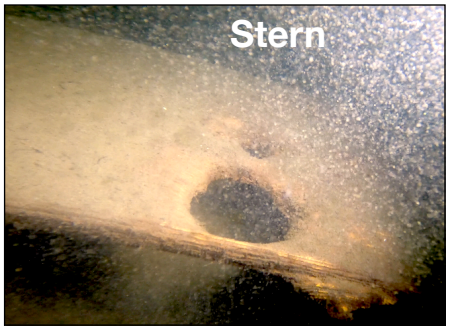
"Bow"


Small Bow Deck


Port
Inside Hull
Raked Bow
Small Bow Deck

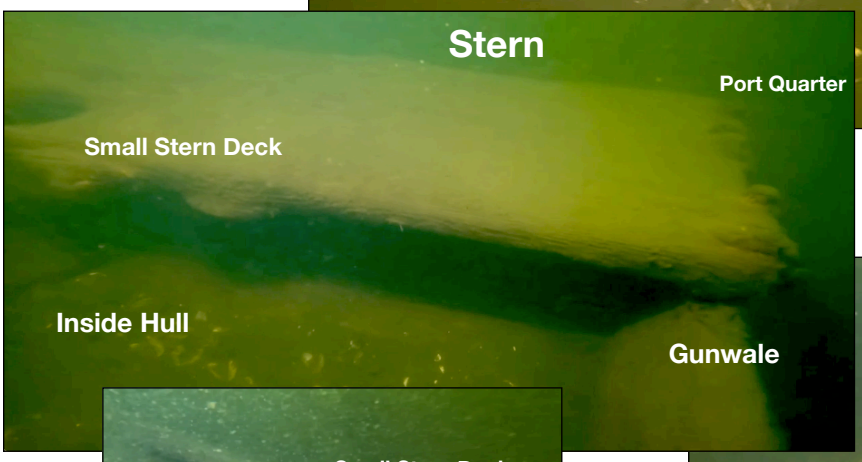

Small Bow Deck
Starboard
Gunwale
Inside Hull

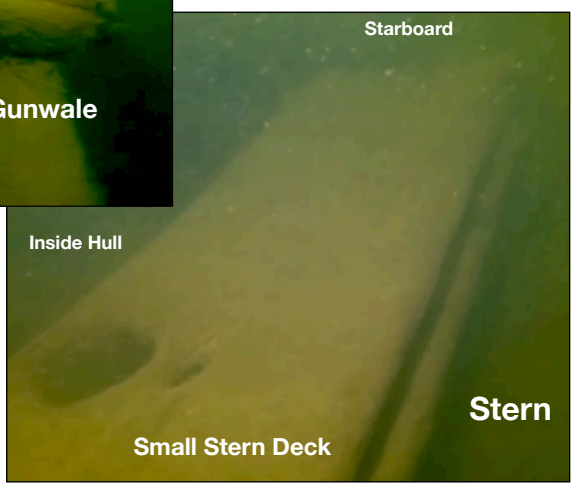

Small Stern Deck
Hull Plank
Bottom Plank #3
Raked
Stern
Starboard
Quarter


Stern

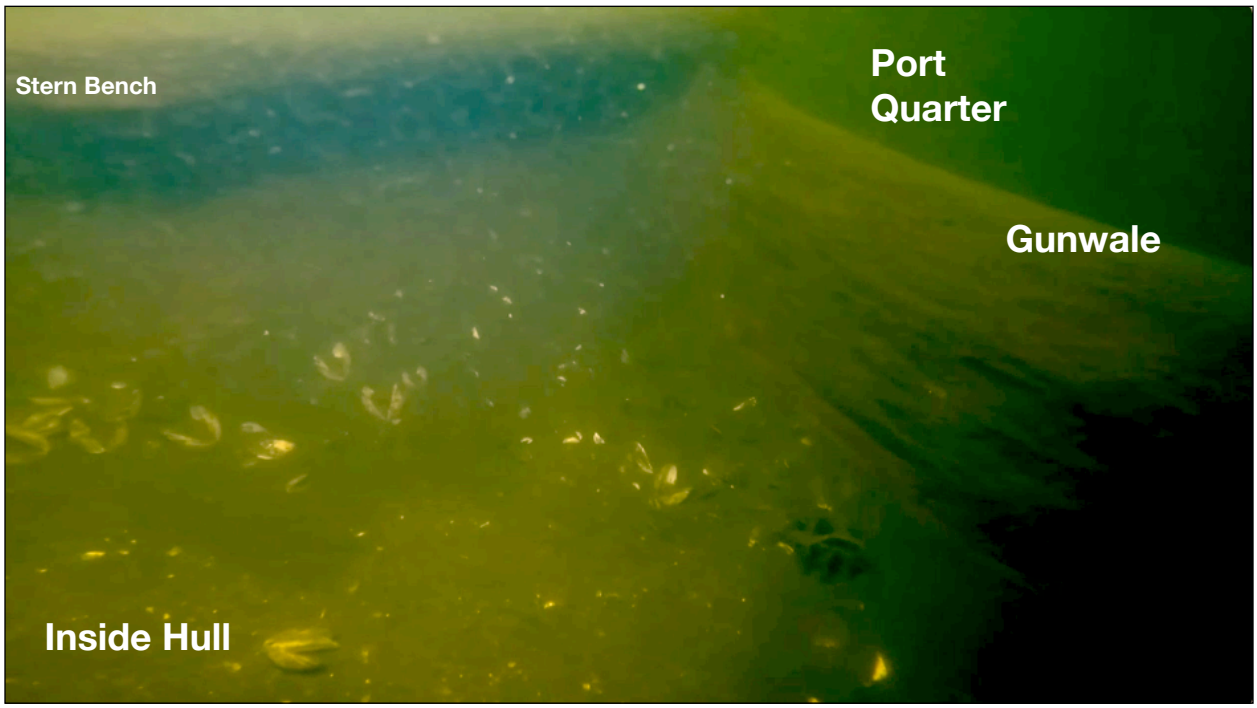
"Stern"


Stern
Inside Hull

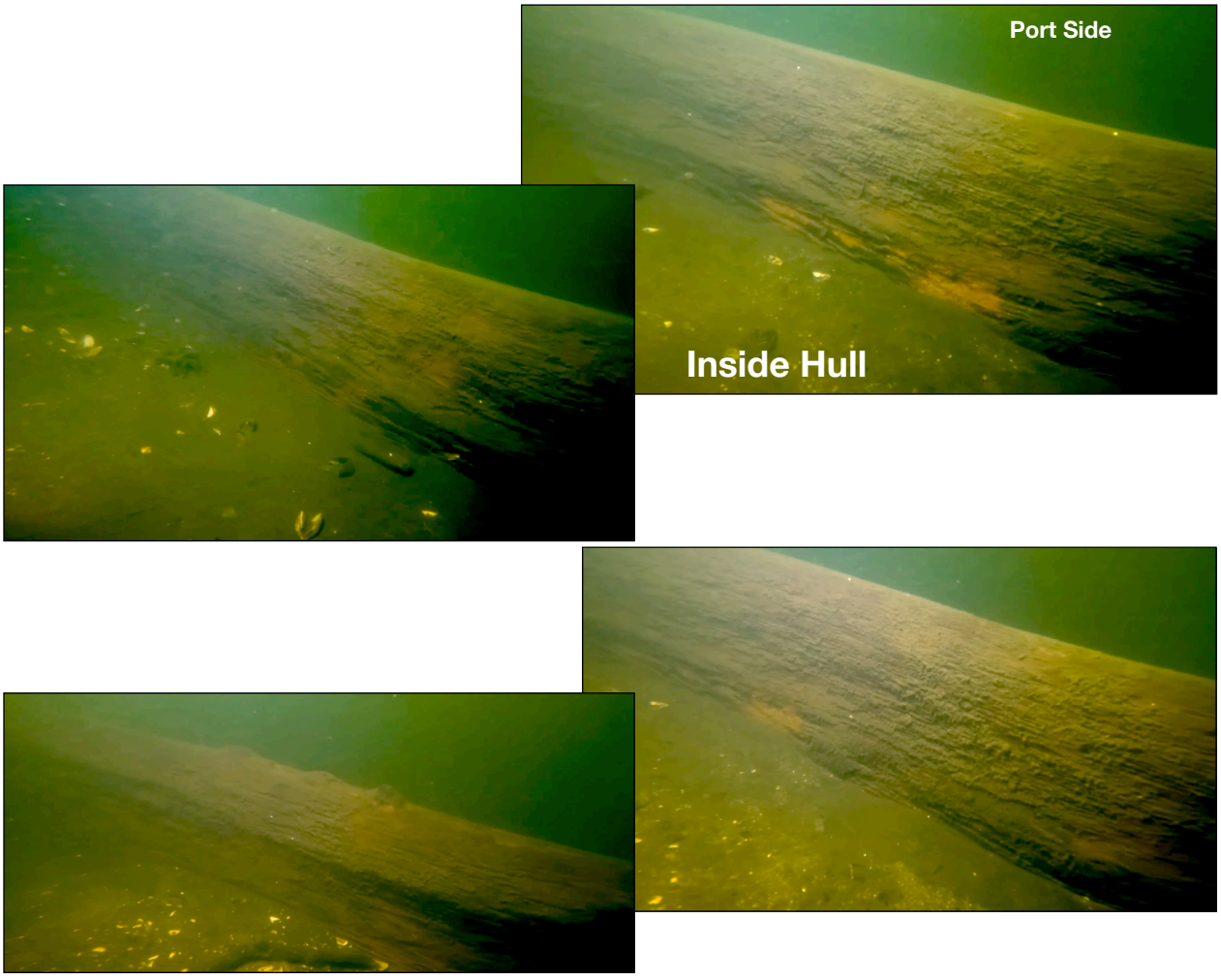

Stern
Port Quarter
Small Stern Deck
Inside Hull
Gunwale

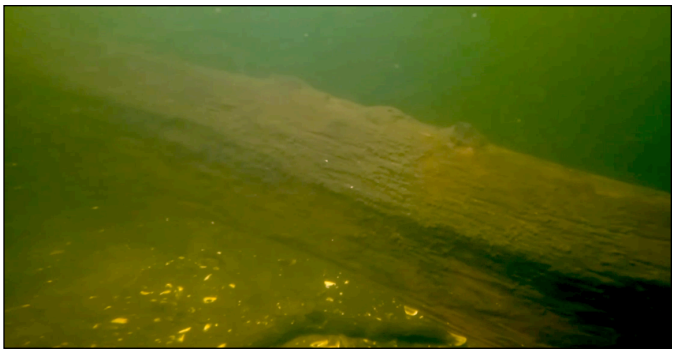

Starboard
Inside Hull
Stern
Small Stern Deck

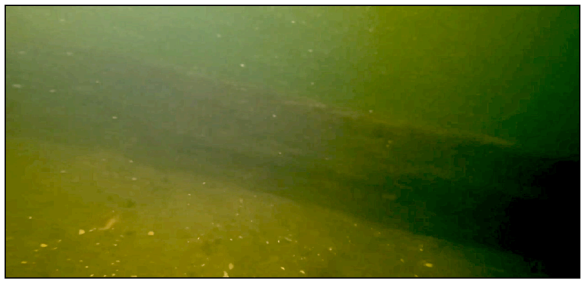

Small Stern Deck
Raked Stern

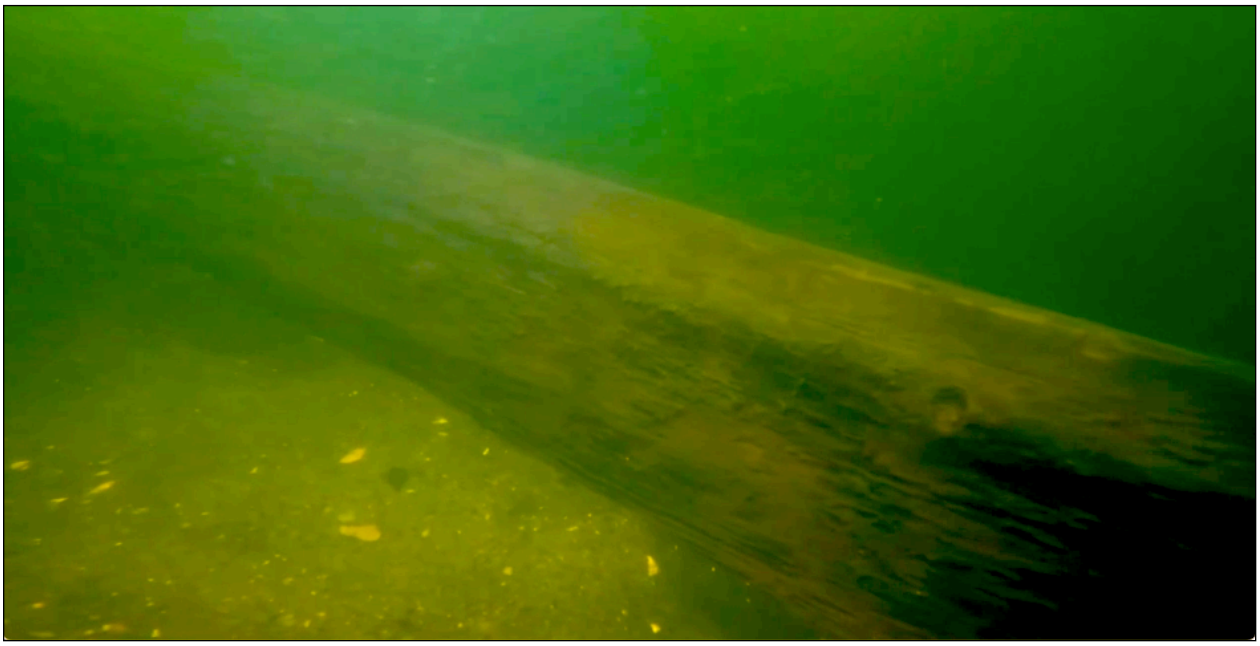


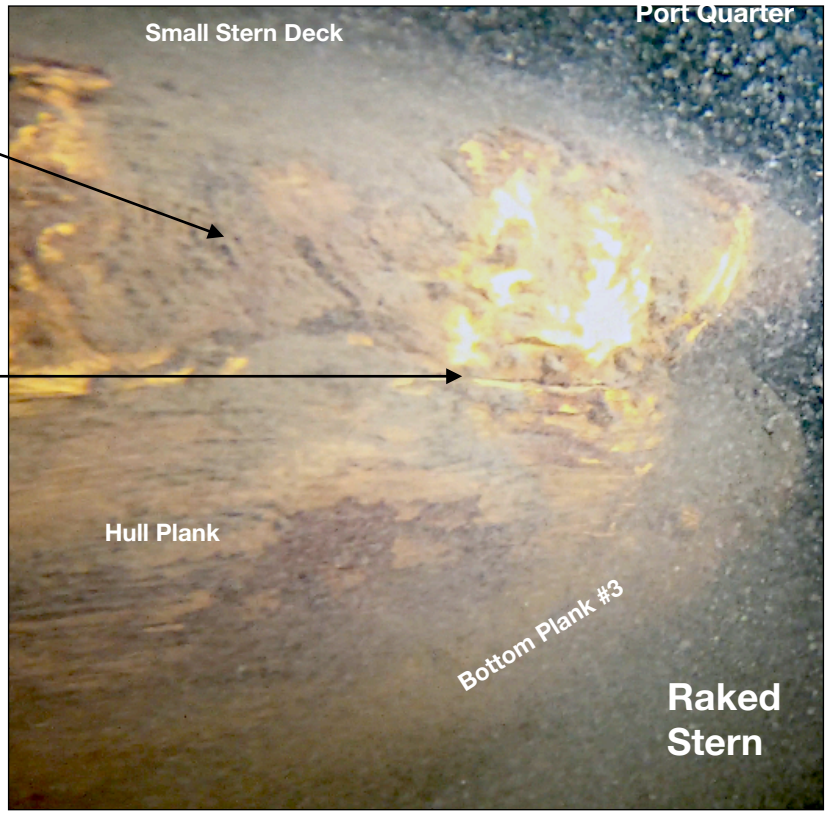
Rough Hewn Hull Planks



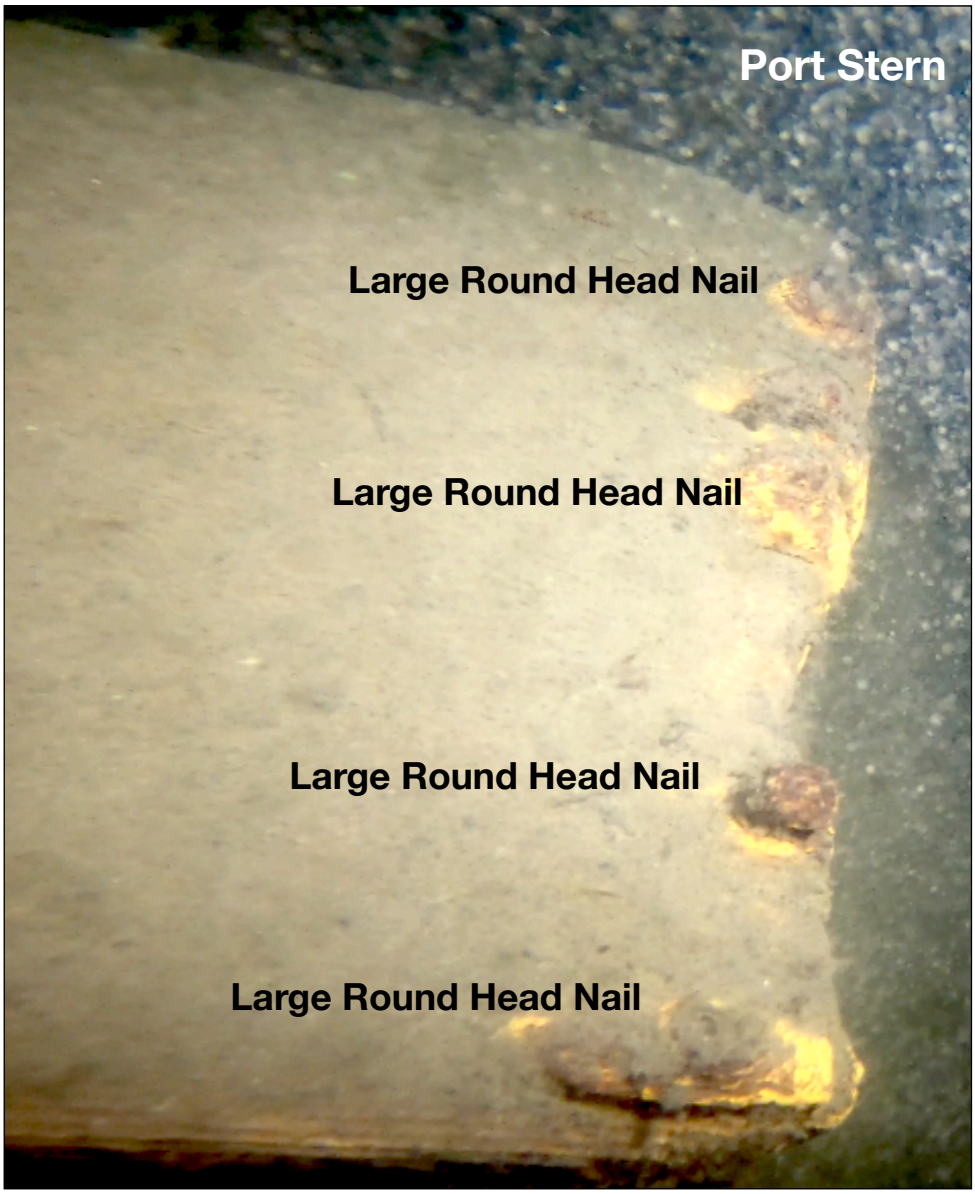






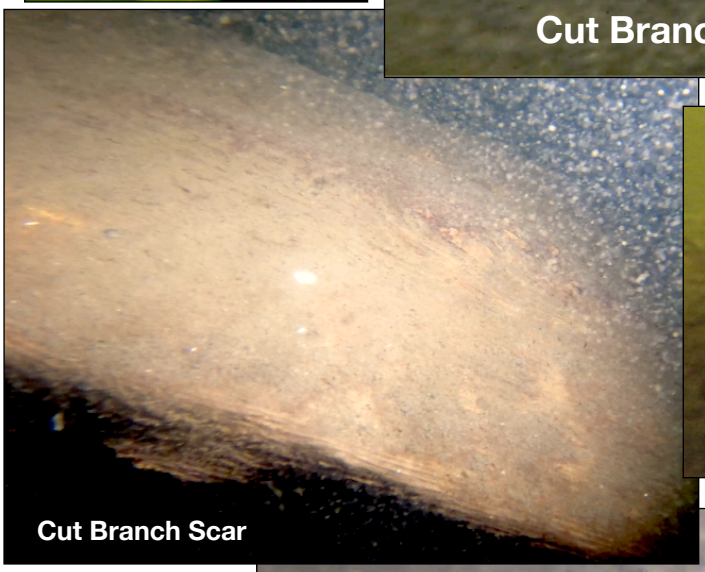

Small Stern Deck
Port Quarter
Hand Saw Marks
Seam Between Planks
Hull Plank
Bottom Plank #3
Raked Stern


Starboard Bow
Large Round Head Nail
Large Round Head Nail
Large Round Head Nail
Gunwale

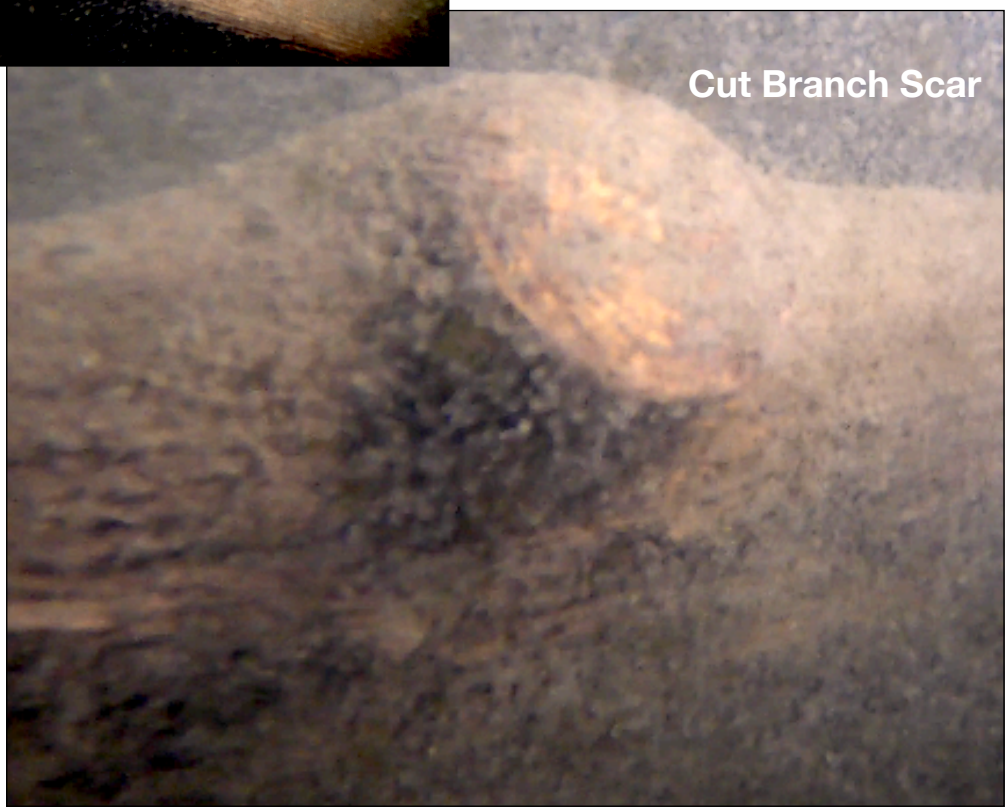

Port Stern
Large Round Head Nail
Large Round Head Nail
Large Round Head Nail
Large Round Head Nail


Thick Hewn Plank =
Wide Strake
Gunwale


Cut Branch Scar


Cut Branch Scar

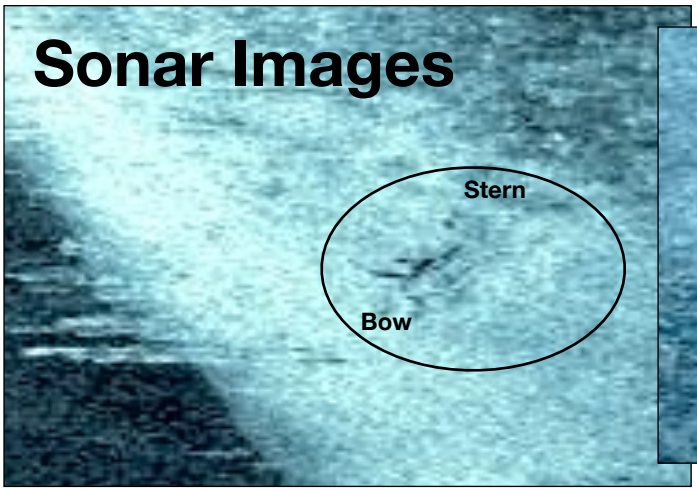

Cut Branch Scar

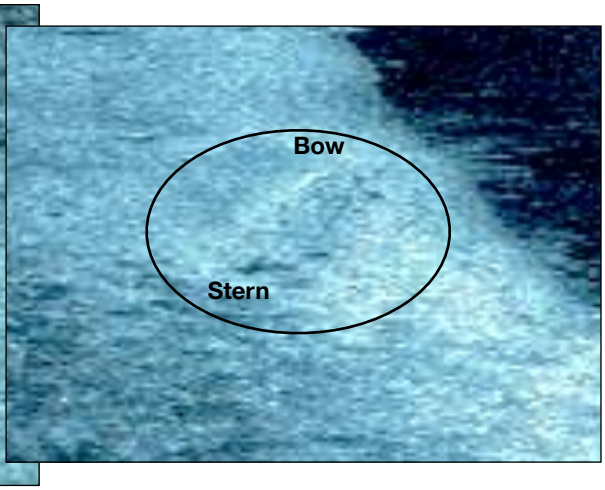

Cut Branch Scar

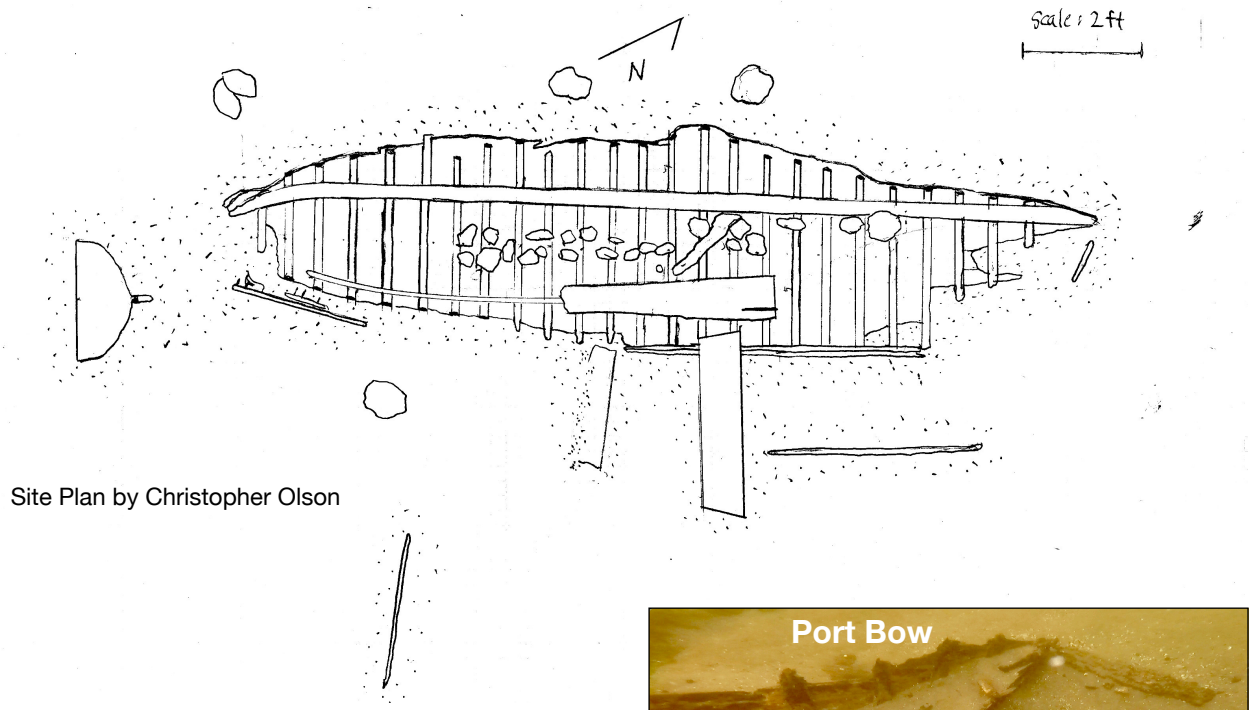
Large Wineglass Stern Wreck, 21-HE-573 (Anomaly 1125)

The Large Wineglass Stern Wreck site is 16.00 feet long and 7.50 feet wide; the wreck is currently 14.90 feet long and 2.50 feet in the beam. When it was constructed, MHM contends the boat was 15.00 feet long and 3.00 in the beam. The wreck, as it lies on the lake bottom, is listing significantly to starboard; the port side has significantly eroded away. This rowboat wreck is carvel-built - the hull is constructed with thin planks set edge-to-edge. The outer hull planks - strakes - are held together with light inner frames consisting of floors and futtocks. The amidships starboard gunwale - with an inner hull stringer - survives and the keelson is complete; only small portions of the port side frames and strakes survive, and the gunwale is entirely destroyed. Additionally, sections of the gunwale were found several feet from the wreck, dislodged over time. The stempost survives but is fragmentary; its upper section is destroyed. The keelson is intact and visible throughout the wreck, and a starboard stringer survives amidships to the quarter. One gunwale-level knee, often found on well-constructed small vessels of this type, has survived attached to a degraded section of the starboard quarter. The wineglass transom is detached from the hull and lies 2.00 feet beyond the wreck. The broken sternpost is attached to the transom's inner face and the lower half of the post remains attached to the skeg and keel. The wreck has a soft chine and round bottom, seen where the deadwood and hull bottom meet; this hull section is also blackened by fire. These attributes are easily seen due to the listing nature of the wreck. Three dislodged bench seats lie on and outside of the wreck and slot-head wood screws held the boat together. Patches of paint and/or white primer survive throughout the wreck and on loose hull fragments; during its working life, the boat was painted repeatedly. The paint might have been green and reddish-brown.

In terms of the wrecking process, MHM contends that a variety of stones were placed in the hull and it was set on fire. The boat listed to starboard and more of the port side was destroyed and charred by fire, particularly in the stern. The sternpost burned through - dislodging the transom - but the skeg is only singed. The stones would have shifted to starboard as the boat sank, and some stones fell out of the hull and lie nearby; the fire was extinguished before the skeg burned further. It is possible that Large Wineglass Stern Wreck was constructed by Moore Boat Works of Wayzata or Dingle Boat Works of St. Paul, although many Twin Cities boat-builders constructed watercraft of this design. In terms of Moore Boat Works, the wreck is a 'No. 32 Lake Minnetonka Family Row Boat', detailed in their 1908 catalog. MHM contends a construction date of around 1910 is reasonable. In consideration of a sinking date, small boats of this type usually had a life span of 15 years or so due to repeated exposure to hot summers and then cold winter storage that expanded and shrunk the wood. Further, because of their relatively inexpensive construction - and often mixed woods such as oak with lesser woods like pine - boats would be replaced rather than undergo extensive repairs over their lifetime. Therefore, MHM suspects the boat sank around 1925, an intentional scuttling using stones and fire. MHM submitted a Minnesota Archaeological Site from to the Office of the State Archaeologist in early February 2024.

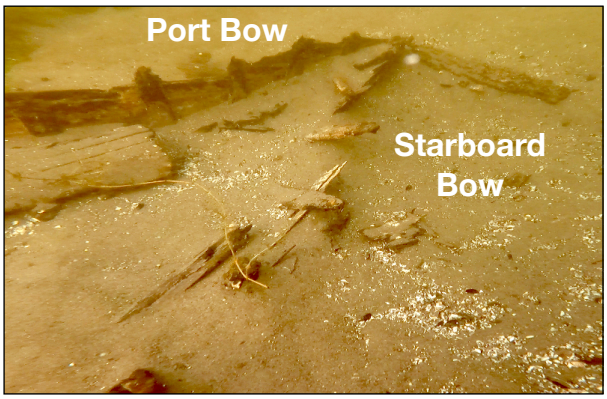






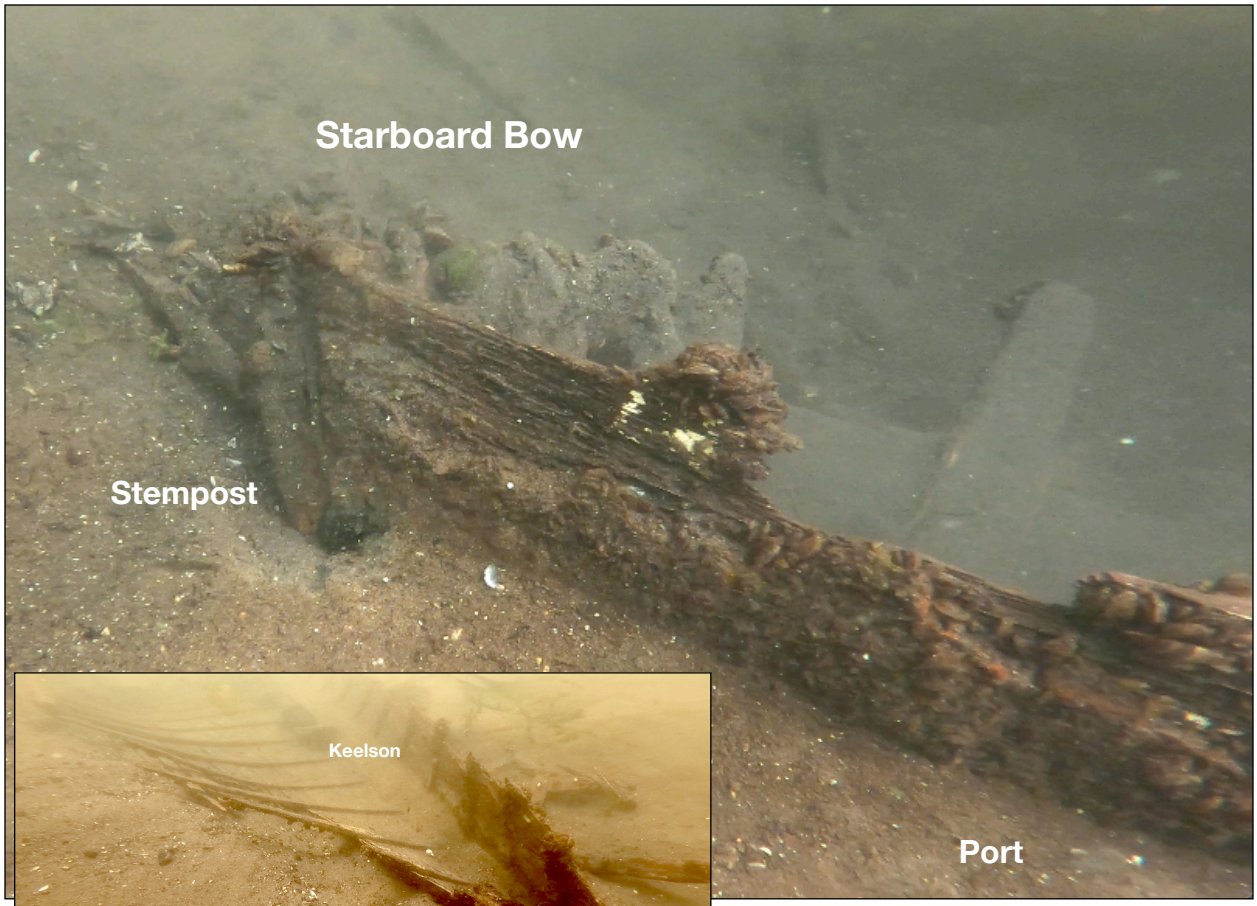
Site Plan by Christopher Olson

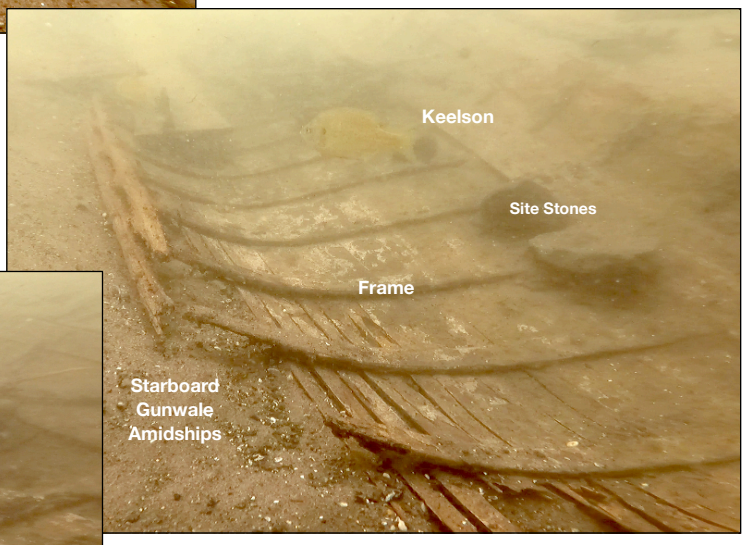
Undisturbed Wreck Site



Detached Wineglass Transom Stern

Wreck Site After Silt Removal by Hand-Fanning
Maximum Depth 8 Inches





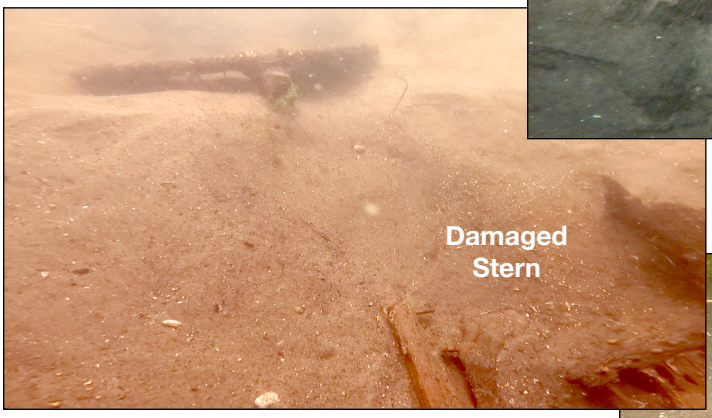

Dislodged Bench Seat
Singed Site Stones
Keelson
Starboard Stringer
Starboard
Amidships


Starboard
Quarter
Singed Site Stones

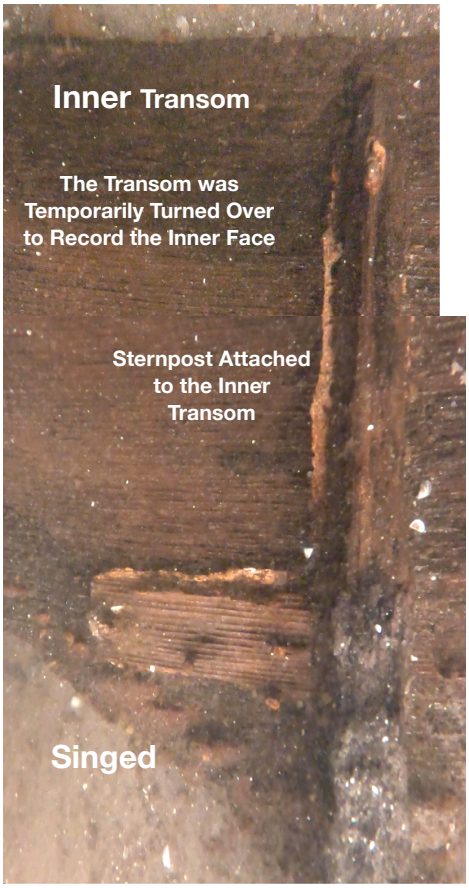

Starboard
Quarter
Keelson

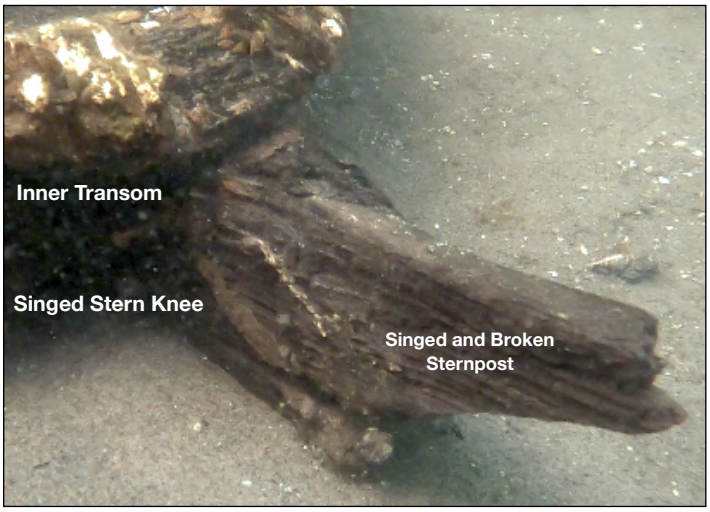

Port
Quarter
Damaged
Stern
Keelson

Detached Large Wineglass Transom Stern

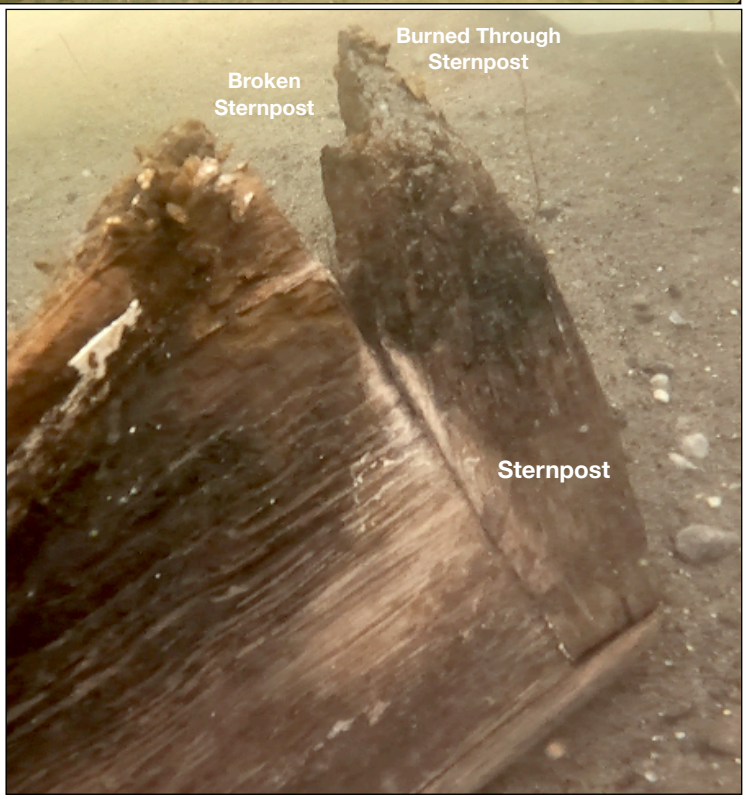


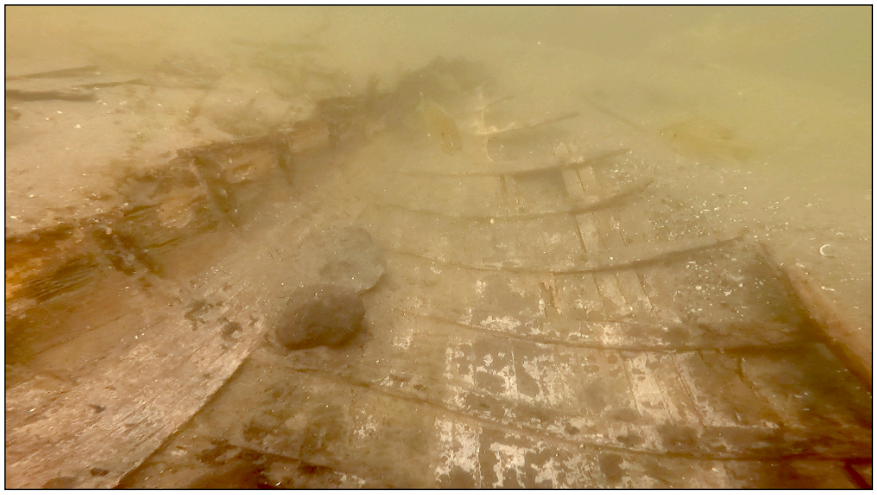
A fleet of wineglass stern boats on Upper Lake Minnetonka (MNHS).





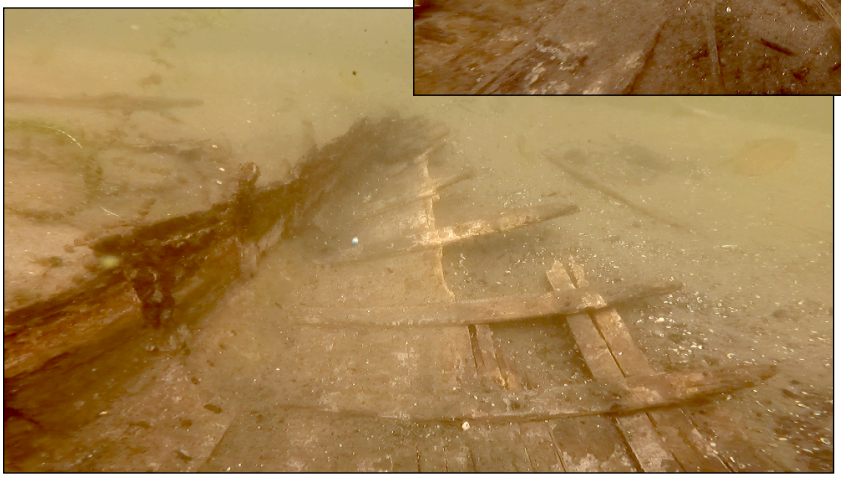
Sternpost and Port Side Deadwood Deadwood is Visible Because of





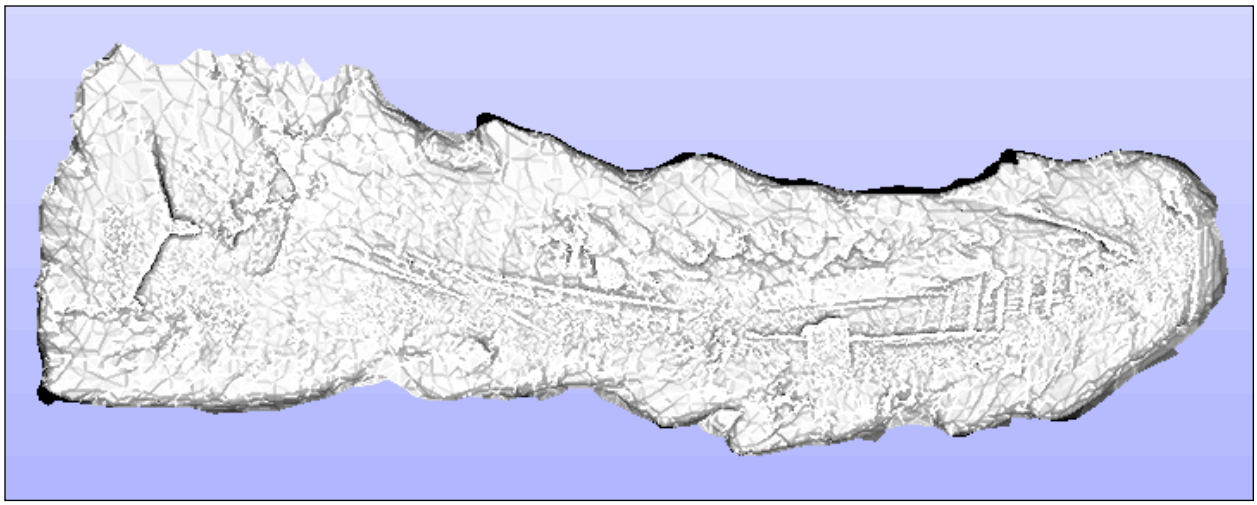
Inner Hull Toward Bow

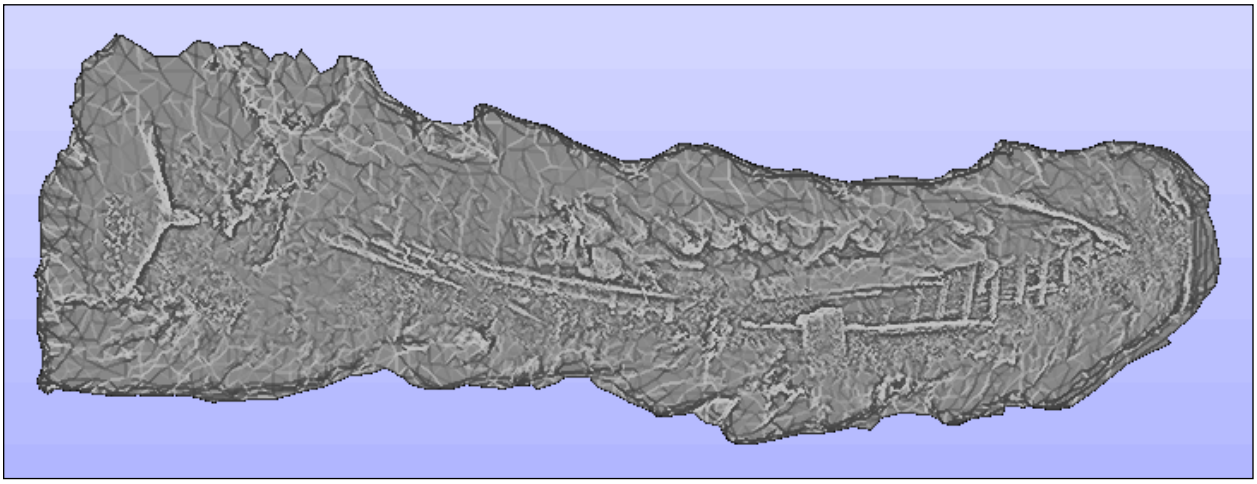
Keelson, Frames, Strakes, Starboard Stringer, Singed Site Stones, Detached Benches

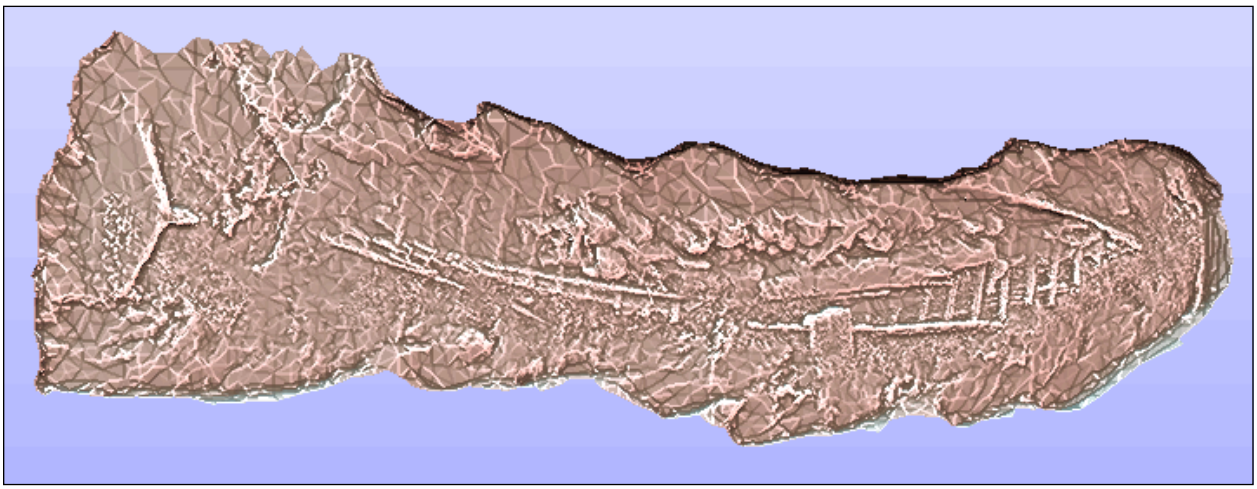


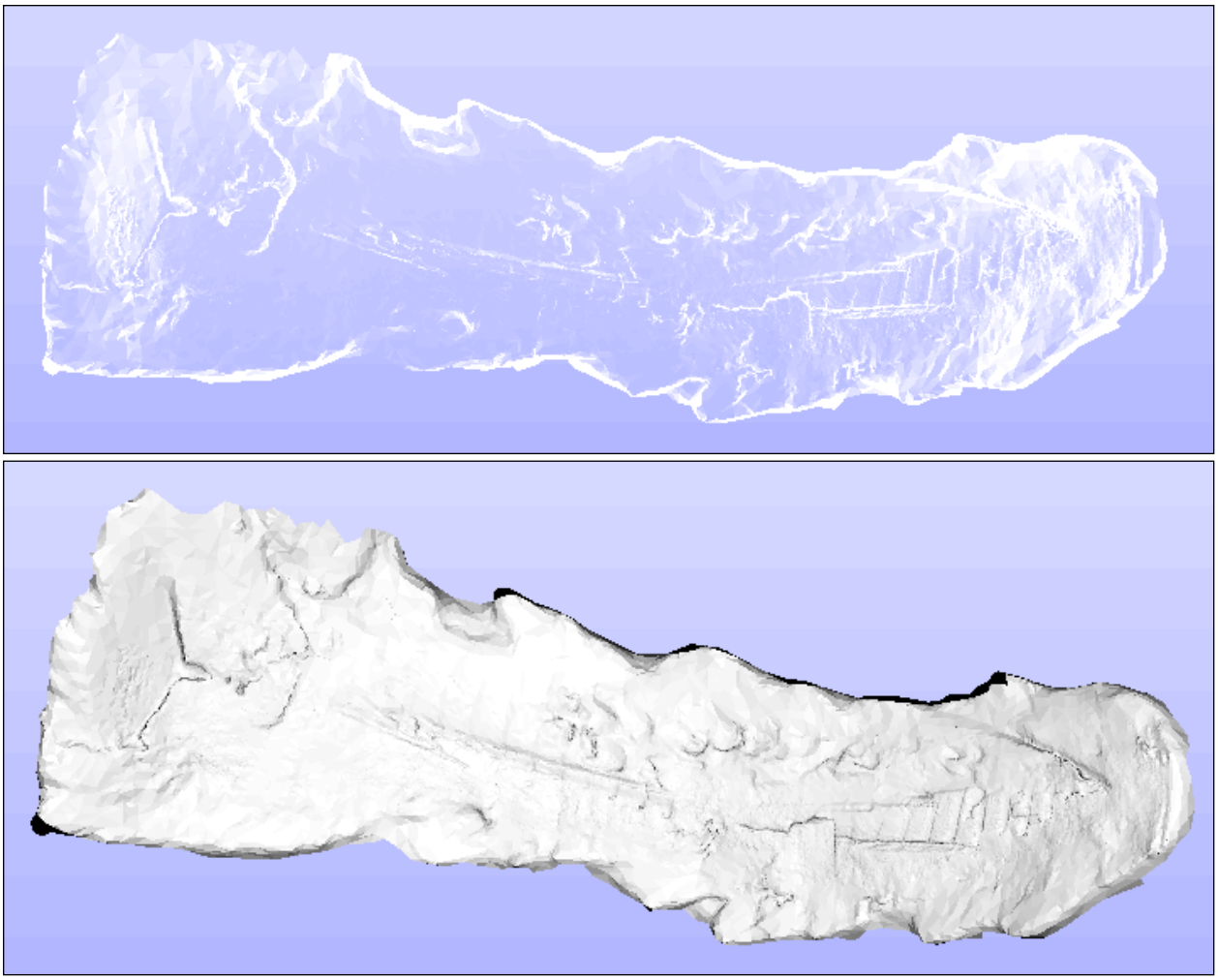
Underwater Photogrammetry

The concave nature of the site did not make Anomaly 1125 the best subject for photogrammetry. However, the great visibility allowed the creation of a simple 3D model.



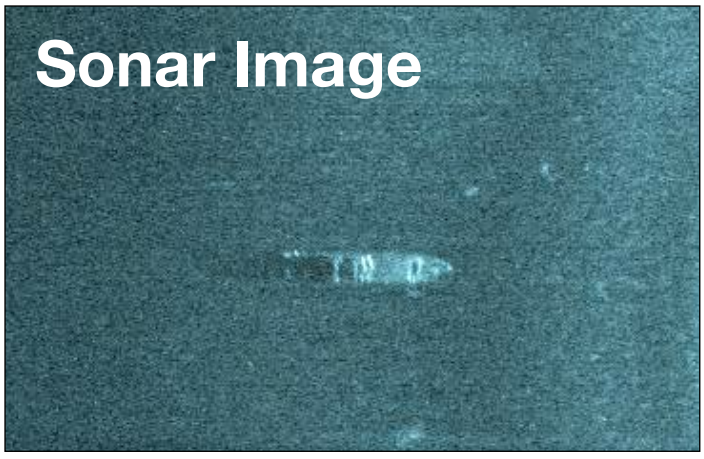




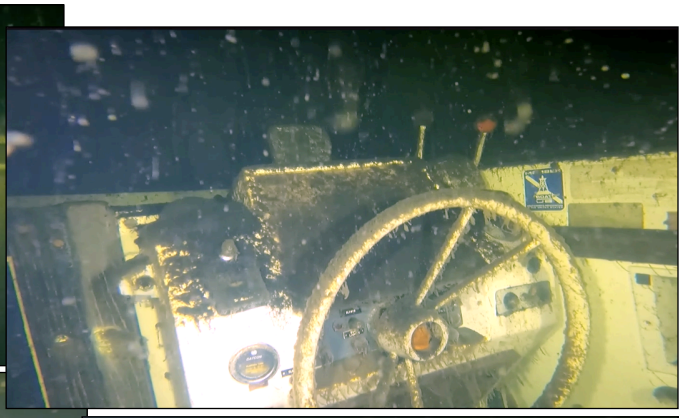


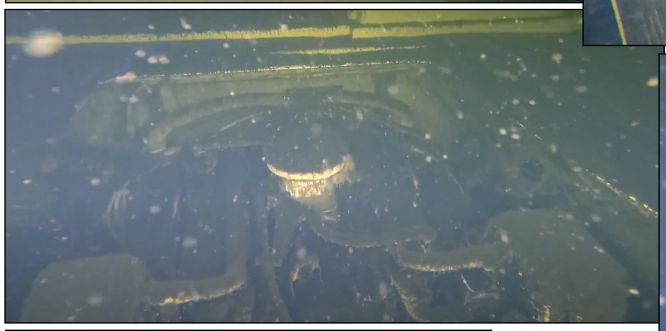
Trojan F25 Express Wreck (Anomaly 1120)

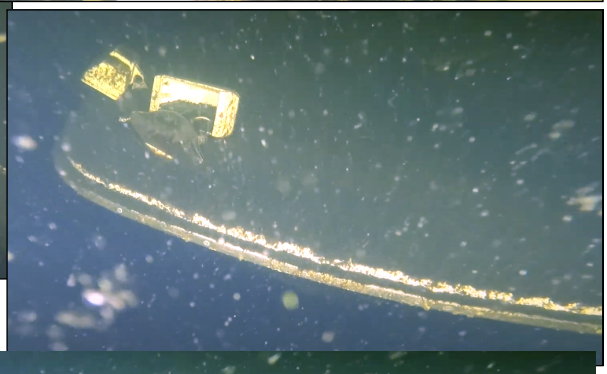
In 2012, MHM conducted a comprehensive sonar survey in the area of Lake Minnetonka where Anomaly 1120 was recorded in 2022; it was not there. The size of the anomaly when recorded in 2022 indicated to MHM that it was a 'new' anomaly. MHM dove on the anomaly in September 2022 and identified it as a 1977 25-foot long white fiberglass Trojan F25 Express Wreck (Kong Moua, personal communication, 14 September 2022) with a Minnesota registration number MN 1053 DW with a 2021 validation sticker that expired on December 31. Therefore, the Trojan sank sometime during May-October 2019, 2020, or 2021 during ice-out time, since validation stickers are valid for 3 years. The engine hatch is missing, a fishfinder is attached to the dash, and a blue and white Boats US sticker adheres to the starboard side windshield. The wreck has a name but it is

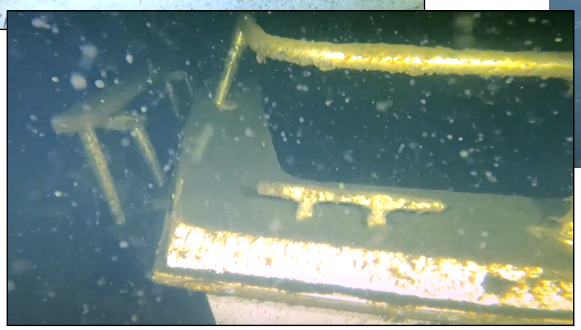


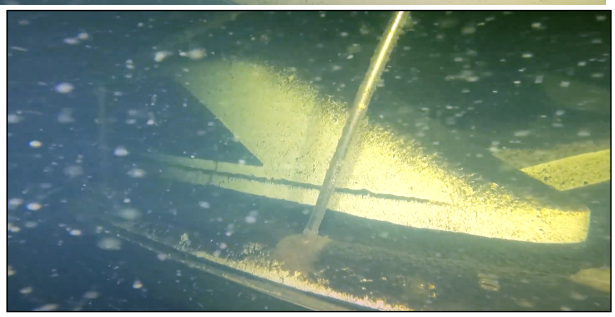
nearly completely obscured by silt; its last letter is 's' and it may have an 'e' or an 'l' before the 's'. Lastly, the key is in the ignition and the throttles appear to be open; MHM contends Anomaly 1120 sank while underway.





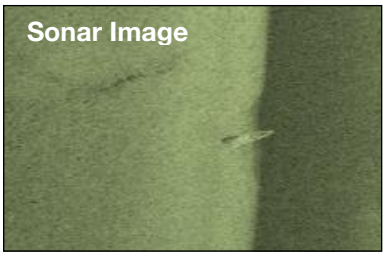


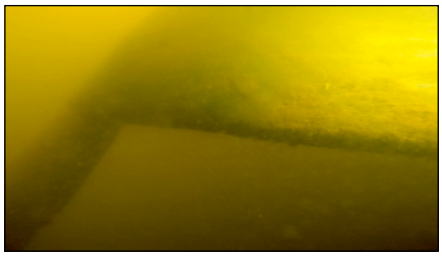




Dock (Anomaly 769)

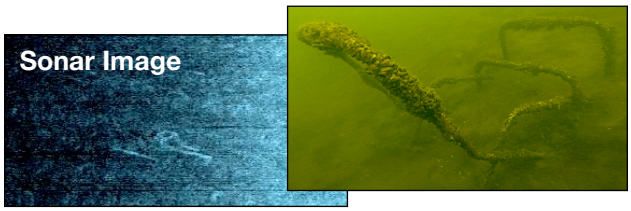
MHM interpreted Anomaly 769 to be a possible small wreck since the sonar signature resembled other anomalies that are wrecks. However, it is a 6.00-foot by 12.00-foot portion of a wooden dock with metal supports.





Chaise Lounge Frame (Anomaly 1101)

The acoustical signature of Anomaly 1101 gave no hints to its nature; it is the metal frame of a chaise lounge.

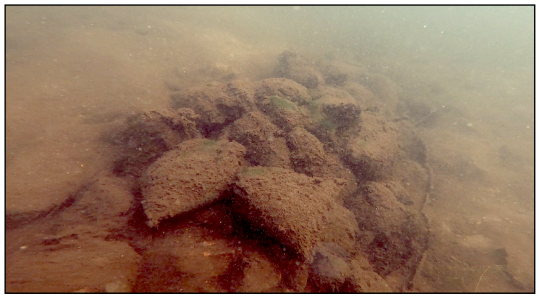


Clock Golf Target (Anomaly 1136)

MHM located Anomaly 1136 while slowly moving through shallow water and it would not be discernible in sonar footage. It is 2 yellow clock hands set among rocks inside a round rock outline. When the sun is in the right place and the water is at least somewhat calm, the Clock would be visible from a large lawn on shore where another - working - clock is constructed. The Clock's function as a Golf Target is evident by several golf balls lying in the immediate area.

Update: Unfinished Dakota Dugout Canoe Wreck Site, 21-HE-557

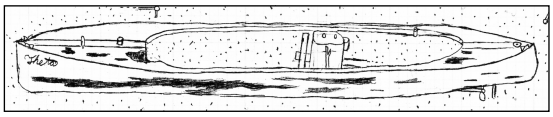
MHM conducted a Phase II excavation of the Unfinished Dakota Dugout Canoe Wreck Site in 2021, including the collection of a wood sample for C14 dating. MHM re-buried the wreck after documentation, securing it with sandbags and rocks. A quick dive on the site in mid-September 2022 for a site assessment confirmed the wreck remains protected by the bags and rocks.



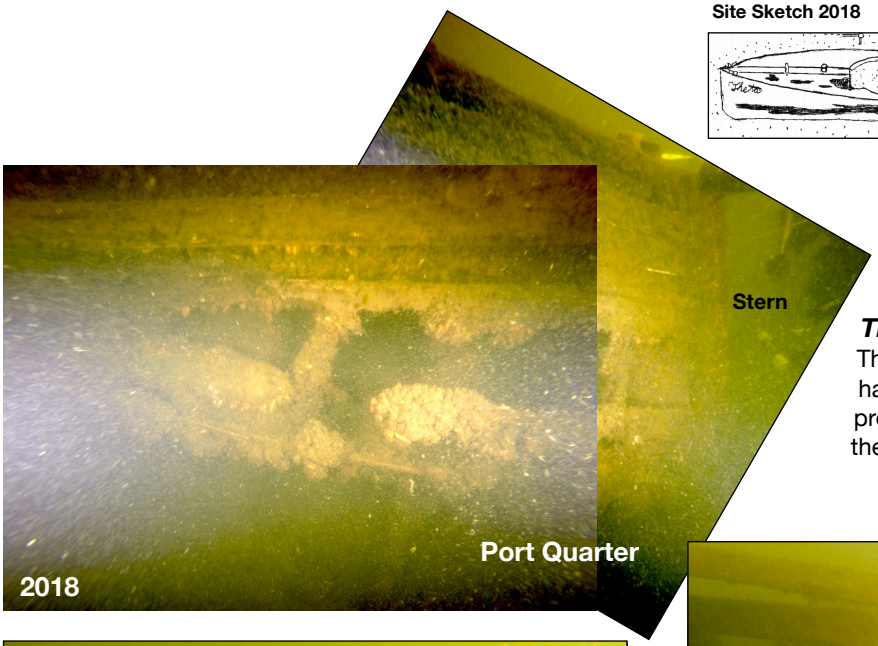
Update: *Theta* Gasoline Launch Wreck Site, 21-HE-514

MHM's site assessment of the *Theta* Wreck, a gasoline launch, was conducted due to concerns based on the affects of prop wash from wake boats on other wrecks that lie in shallow water. Initially documented over a period of 6 weeks in 2018, MHM has returned to the site periodically to assess the on-going affects of mechanical damage to the wreck. In 2019, the metal name *Theta* on the port side bow was pulled loose from the hull and bent. In early September 2023, a site assessment of Theta indicates the wreck has been blown apart by propellor wash. In 2018 the wreck was approximately 75% intact; in 2023, it is 25% intact. The site is unique in the corpus of Minnesota wrecks identified to date, and the loss of integrity of the *Theta* Wreck Site quickly - over only 5 years - is a great (but preventable) loss to Minnesota Underwater Archaeology.

Site Sketch 2018

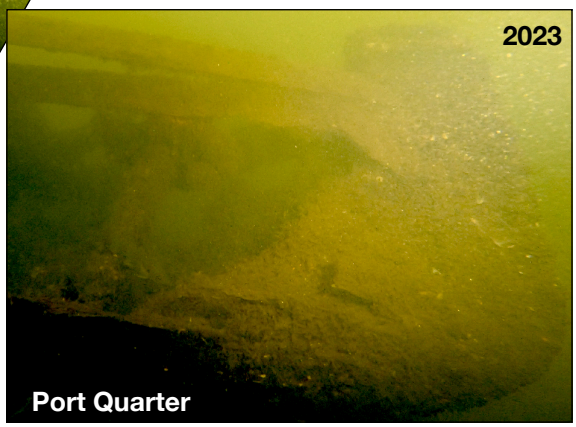


Port Quarter



***Theta* Damage Assessment**

The port side of the *Theta* Wreck has literally been blown apart by propellor wash. Other sections of the wreck have been damaged as well.



The port side *Theta* nameplate is nearly destroyed.

False Target (Anomaly 1106)

MHM contends Anomaly 1106 does exist, but it was not located during this project. MHM will attempt to identify this anomaly in the future, hopefully early in the fieldwork season when the lake visibility is better.

Conclusion

The LMNA-11 Project produced interesting and significant results, particularly identifying 3 new wrecks, 1 new submerged maritime site, and 2 ‘other’ objects. These wrecks and other sites/objects join dozens of other submerged cultural resources already identified in the lake. Comparing and associating these new sites with known sites increases our understanding of the historical context within which these cultural resources operated or were exploited by Minnesotans.

A significant wreck, the Scow Duck Boat Wreck (21-HE-574) joins a small group of the oldest known wrecks in Minnesota, 4 of which come from Lake Minnetonka. The simple design and sturdy construction indicate the vessel was manufactured by a local carpenter, likely not a boatwright. This kind of small vernacular watercraft were constructed and used by farmers and fishermen on the lake prior to the establishment of trained boatbuilders. On the other hand, the Large Wineglass Stern Wreck (21-HE-573) is a sophisticated design that would need a skilled boatwright for its construction. This wreck is only the third wooden wineglass stern wreck (the others are 21-HE-417 and 21-HE-422) so far identified on the bottom of Lake Minnetonka; additionally, a steel example also survives (21-HE-561). Moreover, nearby Christmas Lake has a small 'fleet' of wooden wineglass stern wrecks (21-HE-535, 21-HE-537, 21-HE-538, 21-HE-539, 21-HE-540, 21-HE-541). Additionally, with the possibility that 21-HE-573 may have been constructed by a Minnesota boat-building company - like Moore or Dingle - she is an important link in the State’s small craft production history.

The 1977 Trojan F25 Express Wreck (Anomaly 1120) is 'modern', of course, but with time will be an archaeological site. The Dock (Anomaly 769) and Chaise Lounge Frame (Anomaly 1101) are 2 among hundreds of maritime and other objects that are blown into or fall into Lake Minnetonka every year, while the Clock Golf Target (Anomaly 1136) is just that, a golf ball target. Lastly, MHM's site assessments of the Unfinished Dakota Dugout Canoe Wreck (21-HE-557) and the *Theta* Wreck (21-HE-514) are necessary operations to determine how Minnesota's finite underwater archaeological cultural resources are being preserved under the onslaught of wake boats and other external forces - particularly the shallow sites.

As more Minnesota wrecks are identified, the documented changes in watercraft design and construction over time will more completely fill-out the maritime historical record. Many of the smaller craft on the bottom of Lake Minnetonka - including the Scow Duck Boat Wreck and the Large Wineglass Stern Wreck - represent over 140 years of our relationship with historical personal watercraft. The diversity of nautical, maritime, and underwater sites so far identified in Lake Minnetonka are tangible examples of the rich maritime history of the area. Through research, diving on wrecks and anomalies to collect pertinent data, and ensuring that the collected information is accessible by the public, MHM will continue to investigate Lake Minnetonka's submerged cultural resources into the future. As shown by the 3 new wrecks identified by MHM during this project, the continued re-scanning of several sections of Lake Minnetonka is warranted. Comparison of sonar data recorded from different directions and various times during the Spring, Summer, and Autumn have revealed new sites, as well as facilitating the recognition of false targets that do not require reconnaissance using SCUBA. This new data allows MHM to produce smart and efficient dive plans; this will continue into the future.

The results of the LMNA-11 Project summarized above is connected to all the work that came before and that will come after its completion. It is clear that the types of sites that exist in Lake Minnetonka are diverse, archaeologically and historically significant, and worthy of great attention. To date, the watercraft located on the bottom of Lake Minnetonka represent nearly 1,000 years of Minnesota's maritime history and nautical archaeology. In the historic period, the known wrecks represented in the lake span over 220 years - and possibly as much as 339 years - of local maritime culture. The data collected during the LMNA-1-11 Projects have been utilized to create the ever-changing Lake Minnetonka Multiple Property Documentation Form, a guide that will be used to nominate Lake Minnetonka's submerged cultural resources to the National Register of Historic Places (NRHP). At this point, the Wayzata Bay Wreck (21-HE-401) has been successfully nominated to the NRHP by MHM. Lastly, the large and significant data produced during the Lake Minnetonka projects has and will be used for comparison purposes as MHM identifies wrecks and maritime resources on the bottom of other Minnesota lakes. To date, these bodes of water include Lake Minnewashta, Lotus Lake, Crystal Lake, White Bear Lake, Lake Waconia, Prior Lake, Lake Johanna, Medicine Lake, Lake Pulaski, Forest Lake, and Christmas Lake.

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Marken, M.W., A. Ollendorf, P. Nunnally, and S. Anfinson. 1997. *Beneath Minnesota Waters: Minnesota's Submerged Cultural Resources Preservation Plan*. Summit Envirosolutions, Inc. and Braun Intertec, St. Paul. Report prepared for the State Historic Preservation Office, Minnesota Historical Society: St. Paul, MN.

Minnesota Historical Society. *Photograph Collection*. St Paul, MN.